

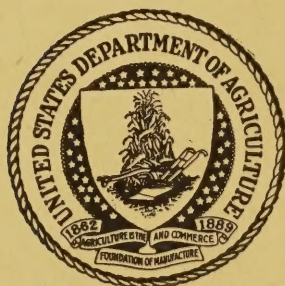
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Central Regional *NUTRITION* Conference

April 10, 11, 12, 1950
at Allerton State Park, Ill.

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CENTRAL REGIONAL NUTRITION CONFERENCE

April 10, 11, 12, 1950

Allerton State Park, Illinois

The Central Regional Nutrition Conference of State home demonstration leaders and extension nutritionists was held April 10, 11, and 12, at the Allerton State Park, Ill. This report contains a brief summary of the talks and discussions. Those who developed the program had three purposes in mind: First, to bring the food and nutrition specialists up to date on new findings from nutrition research and to indicate their application to southern regional conditions; second, to exchange techniques on extension methods; and third, to review the present program in the Central States.

Mrs. Kathryn Van Aken Burns, State home demonstration leader, Illinois, was chairman of the Over-All Committee and had the assistance of Flora Carl, Missouri, and Lois Oberhelman, Indiana. The Federal Committee consisted of Mary Rokahr, Eunice Heywood, and Gladys Gallup.

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CONFERENCE PARTICIPANTS

Food and Nutrition Specialists

Ruth M. Dawson	Oklahoma
Ramona Voss	Oklahoma
Mrs. Leslie W. Smith	South Dakota
Mabel Doremus	Nebraska
Vivian Winston	Nebraska
Gertrude Allen	Kansas
Mary Fletcher	Kansas
Josephine Flory	Missouri
Frances E. Cook	Illinois
Inez Hobart	Minnesota
Ina Rowe	Minnesota
Linnea Dennett	Wisconsin
Sally Stillman	Wisconsin
Roberta Hershey	Michigan
Lois Oberhelman	Indiana
Mrs. Mildred Nelson Smith	Iowa
Alma L. Garvin	Ohio
Marion E. Moore	Ohio

State Home Demonstration Leaders

Nellie McLoughlin	South Dakota
Florence Atwood	Nebraska
Georgiana H. Smurthwaite	Kansas
Lulu Black (assistant)	Illinois
Mrs. Kathryn Van Aken Burns	Illinois
1 Blanche Lee	Wisconsin
Eva Goble	Indiana
Louise Rosenfeld	Iowa
Minnie Price	Ohio

Other State Personnel

Frances Minick (County home demonstration agent).	Indiana
Jessie Heathman (Assistant Extension Editor) . .	Illinois
H. J. Reed (Director)	Indiana

U.S. Department of Agriculture

M. L. Wilson, Director of Extension Work

Mary Rokahr, In Charge, Home Economics Section, Extension Service

Gladys Gallup, Assistant Chief, Division of Field Studies and Training,
Extension Service

Eunice Heywood, Field Agent, Central States, Extension Service

J. L. Boatman, Chief, Division of Subject Matter, Extension Service

Faith Clark, Food Economist, Bureau of Human Nutrition and Home Economics

Frank L. Teuton, Head, Information Division, Bureau of Agricultural and
Industrial Chemistry,

Speakers and Others

Dr. Ercel Eppright, Head, Department of Foods and Nutrition, Iowa
State College

Dr. Frances O. VanDuyne, Associate Professor of Foods, University
of Illinois

Dr. Otto A. Bessey, Head, Department of Biological Chemistry, University
of Illinois College of Medicine

Myra Robinson, Immediate Past President, Illinois Home Bureau Federation

Conie C. Foote, Home Economics, Kansas City Project

Ina Morris, Production and Marketing Administration

PROGRAM OF CONFERENCE

Monday, April 10
9 a.m.

Grace Armstrong, Illinois, presiding

Report of Regional Research in Nutrition.

Dr. Erceel Eppright, Head, Department of Foods and Nutrition,
Iowa State College

New Developments in Foods Research.

Dr. Frances O. VanDuyn, Associate Professor of Foods,
University of Illinois

How To Evaluate One Phase of Nutrition

Dr. Gladys Gallup, Assistant Chief, Division of Field
Studies and Training

1:30 p.m.

Mrs. Linnea Donnett, Wisconsin, presiding

The Problem of Estimating Nutritional Status.

Dr. Otto A. Bessey, Head, Department of Biological Chemistry,
University of Illinois College of Medicine

How To Interest Adults in Studying Nutrition.

Dr. Erceel Eppright

Discussion

6:30 p.m.

Dinner meeting - M. L. Wilson, presiding

New Uses for Farm Products.

Frank L. Teuton, Head, Information Division, Bureau of Agricultural and
Industrial Chemistry, U.S.D.A.

8 p.m.

Informal get-together with Eunice Heywood and Dr. Gladys Gallup showing
pictures they took on their extension assignments in Europe.

Tuesday, April 11

9 a.m.

Eva Goble, Indiana, presiding

What Are We Teaching? (A survey of Central States projects, present and past)

Mabel Doremus, Nebraska

A Farm Woman Looks at the Nutrition Project.

Myra Robinson, Immediate Past President,
Illinois Home Bureau Federation

Discussion--Where Are We Heading?

Georgiana H. Smurthwaite, State Leader,
Kansas, Leader

Our Responsibility in the Marketing Program.

Director H. J. Reed, Indiana; Conie C. Foote,
Home Economist, Kansas City Project

1:30 p.m.

Flora Carl, Missouri, presiding

The Measuring Device or Report Forms Used in Evaluating
Some Phases of Nutrition.

Dr. Gladys Gallup

Food and the People.

Director M. L. Wilson

Food Consumption Patterns.

Faith Clark, Food Economist, Bureau of Human Nutrition
and Home Economics

Discussion -- Implications of Consumption Patterns for Program
Planning.

Mildred Nelson Smith, Iowa, Leader

8 p.m.

Inez Hobart, Minnesota, Presiding

New Approaches and New Teaching Devices.

Gladys Stillman, Wisconsin)
Ruth Dawson, North Dakota) Co-chairmen

Wednesday, April 12

9 a.m.

Nellie McLoughlin, South Dakota, presiding

Panel Discussion -- Incorporation Nutrition in the 4-H Program.

Josephine Flory, Missouri; Minnie Price, Ohio;
Mary Fletcher, Kansas; Frances Minick, Indiana

Panel Discussion -- Relating the Extension Program in Nutrition to
Other State and National Programs in Nutrition.

Eunice Heywood, Leader; Blanche Lee, Wisconsin;
Lois Oberhelman, Indiana; Jessie Heathman, Illinois;
Mary Rokahr, U.S.D.A.

Our Responsibility for the School Lunch Program.

Roberta Hershey, Michigan; Ina Morris, Production and Marketing
Administration, participating.

Applying the Measuring Device in Evaluation.

Dr. Gladys Gallup

Report of Regional Research in Nutrition

Dr. Ercel Eppright, Head, Department of Foods and Nutrition
Iowa State College

Modern trend to cooperative projects, particularly when dealing with problems of human beings: nutrition and social sciences. Cooperative research introduced in 1935 by Dr. P. Mabel Nelson, in project studying nutrition of college women. About 25 papers have been published to date on that project.

Three regional research projects are under way now under R. M. A. which furnishes financial support for research pertaining to home and family life. H.N.H.E. cooperating also. Other cooperative projects in other regions.

Preliminary Reports

- I. Nutritional status and dietary habits of older women 30 to 90 years. Seven States cooperating: Minnesota, South Dakota, Michigan, Illinois, Iowa, Nebraska, Missouri. 2,000 women have been reached and data taken on usual daily food intake to study the problem involved in aging. Grouped in decades. Nutrition status measured on 400 women - blood, hemoglobin, basal metabolic rate, bone X-rays, medical examinations. 100 subjects on 7-day weighed food intake because it is more reliable than reports of usual food intake. 50-55 women on balance studies: nitrogen, calcium, and phosphorus. Will attempt to determine biochemical changes accompanying hypertension.

Results not ready for publication. Some noticeable trends:

1. Calorie intake averages lower than present predictive tables would indicate requirement to be. 1,731 calories usual food intake.
2. About 40 percent of the women studied are overweight. Either we don't understand overweight or caloric needs of women, or there is some unsolved problem.
3. Large percentage of women rated as having "poor" health and also having high blood pressure.
4. The percentage rating "poor" increases with age: "breaking point" appears to be between 60 and 70 years of age in condition of the women and also in their food habits. This is the "critical age."
5. Nutrition and patterns of living cannot be divorced. Women with good appetites, who eat enough food, seldom show gross nutritional inadequacies. Good appetite associated with psychological satisfactions in living. If the women are active, have a feeling of worthwhile and purposeful activities, they have better appetites and fewer nutritional inadequacies.
6. Body measurements are being taken. May also be useful in developing patterns for clothing for older women.

II. Study of nutritional status of school children with particular emphasis on school lunch. Four States cooperating: Ohio, Kansas, Iowa, Indiana

Many people participating - lay and professional. Much nutrition education being accomplished as a byproduct of the project.

Nutritional appraisal of children includes determination of blood levels of hemoglobin, vitamin A and carotene, ascorbic acid, alkaline phosphates.

Attempt will be made to find any possible correlation between nutritional status and intelligence rating, personality adjustment, and motor function.

Now in third year of study - will require at least 5 years to complete.

Some trends observed: approximately 1/3 well fed
" 1/3 fairly well fed
" 1/3 poorly fed

Greatest apparent lack in children's diets: milk and green vegetables.

Comparison of nutritive value of school lunch with lunch eaten by children who went home to lunch. School lunch superior in calcium and ascorbic acid. Home lunch superior in calories, protein, iron, and niacin.

Girls' diets more variable than boys'.

Not many glaring defects; some underweight, greatest indications of nutritional deficiencies in skeletal area. Greatest defects seen in teeth - average $10\frac{1}{2}$ cavities per child. Hemoglobin content fair, vitamin D deficiency great. Children's grades correlated positively with blood ascorbic acid. The more mature physically, and those with higher rating in hemoglobin did poorer in school. There was a closer correlation between girls than boys - maybe because girls are more apt to be on a marginal level than boys. Girls are more variable than boys and do vary from day to day. The outstanding difference was in the amount of milk - those with higher grades had much more milk than those who did not meet the standards. The daily food pattern was found to rest on a sound basis. The home must know what the child is getting at school to complete the day's needs.

III. Amino acid and protein requirements of human beings. Three States cooperating: Wisconsin, Michigan, Illinois. Still need to develop methods for determining amino acid content of foods. Need to determine relation between amino acids in human metabolism - e.g., methionine and cysteine.

The amino acid and protein requirement is the most essential of all nutrients. Indiana, Wisconsin, and Michigan working on this project to ascertain the body requirement of methionine, cystine, and tryptophan. In self-selected diets of older women, methionine is most likely to be low - it is related to a negative nitrogen balance.

Protein metabolism may be a problem of older women. Decrease in income may be associated with dietary deficiency of protein.

New Developments in Foods Research

Dr. Frances O. VanDuyne, Associate Professor of Foods,
University of Illinois

I. Freezing of Foods

1. Vegetables

- a. Unpleasant flavor and toughening of skins develops when peas are held between vining and blanching if bruising is present. Peas could be held for 24 hours without development of off-flavor if kept cool and no bruising such as in pea shellers, wringers, etc. Bruising increases enzyme activity.
- b. Blanching - boiling water better for home. With steam there is a tendency to overload, with resulting underblanching.
- c. Air vs. cold-water cooling. Cold water preferred for home. If a good water blanching is used, method of cooling has little effect on total losses. Ascorbic acid losses greater in air cooling than cold water.
- d. Rate of freezing - no appreciable difference in palatability and vitamin content between quick-freeze and slower freezing.
- e. May be advisable to recommend lower storage temperature for frozen foods. 0°F. to 10°F. /10°F. causes a greater loss in chlorophyll.
- f. Fluctuating temperature causes dessication of food, even though container is moisture and vapor proof indicated by the accumulation of ice crystals on the sides of the package. Steady temperature gives better color ascorbic acid retention. Rancidity does not develop as fast.
- g. Packing frozen peas with sugar makes them more palatable.

2. Fruits

- a. Sirups - more than 50-percent invert sugar not as satisfactory as lower percentage of sugar.
- b. Antioxidants - ascorbic acid most satisfactory but expensive. Dihydroxy malic acid cheaper, very effective, but difficult to dissolve and unstable in solution so not considered satisfactory.
- c. Peaches with low tannin content do not brown. At 10°F. less tannin oxidation than at 0°F. or 10°F. The freezing rate on fruits is not an important factor in determining quality.

3. Enzyme activity. Only partial heat inactivation may cause more trouble than no inactivation. Activity then regenerates with greater activity.

4. Frozen cooked foods.

Research very much in infancy. General recommendations:

- a. Vegetables better if blanched, not cooked, except beets, squash, sweetpotatoes, and pumpkin. Not much success with freezing potatoes.

- b. Sauces and gravies - less separation if small amount of raw starch paste is added to prepared sauce before freezing.
- c. Frozen pies - need to be heated in oven before serving rather than defrosted in refrigerator or at room temperature to prevent sogginess of crust. Freezing baked or unbaked - difference of opinion.
- d. Cakes - freeze either batter or baked cakes. Need to be very sure material used is of highest quality. Synthetic vanilla may produce off-flavors. Eggs or milk may cause off-flavors.
- e. Need to emphasize fact that frozen prepared foods probably should not be stored a great length of time. Freshly prepared product usually superior.

II. Canning of fruits and vegetables.

Much careful research has been done and reported in journals. University of Maryland doing much research. Greater retention of ascorbic acid in tin than in glass. Use of tin insert in glass jar improves retention.

Pressure saucepan cookery - any good method of cooking gives about same retention of nutrients: either small amount of boiling water, steaming, or pressure saucepan.

Now trying to standardize methods of judging palatability of foods.

It is hoped that standards may be developed for grading frozen foods.

How to Evaluate One Phase of Nutrition

Dr. Gladys Gallup, Extension Service, Washington, D.C.

In evaluating, we want to select objectives that bring about changes in people, thus we evaluate in terms of behavior of people. Dr. Gallup used the illustration in a nutrition program of teaching the basic seven. How shall I, through teaching help the homemaker to go from where she is to a higher objective in nutrition. We employ various teaching methods such as discussion and visual aids to accomplish our goals. To evaluate our results we consider: Did I accomplish my aims? What made her (the homemaker) move? How far did she (homemaker) go? One of our weakest points in extension is evaluation. A good extension worker always observes and evaluates.

Good observation may detect evidence of teaching results in related situations. For example, in teaching the basic seven we might observe results in: (1) Home gardens, (2) covered dish lunches, (3) lunches that are sent to school, (4) market produce, (5) grocery requests, (6) fair exhibits, (7) food placed in lockers, and (8) questions women ask.

Evaluation might be made by questionnaires. It is very important that questionnaires contain well-stated questions. To do good sampling, all groups must be represented. Usually the entire group is arranged alphabetically before the sample is selected. There must be a minimum of 100 representing all groups to have good sampling. One must impress upon the group selected in the sampling that they have been selected for a specific job and that it is essential that they cooperate in filling out the questionnaire or other checking means.

The analysis of the data and interpretation is always reported back to those cooperating in the study. The results of the sampling are reported as representing the whole of a group. The Virginia study of 400 cases in 1947 was cited. The interpretation of such data is valuable in program planning.

Problem of Estimating Nutritional Status

Dr. Otto A. Bessey, Head, Department of Biological Chemistry,
University of Illinois College of Medicine

The nature of nutrition varies from the standpoint of the chemist and the physiologist, as is shown by the growth curve for rats. Requirements for vitamin A for rats show the following amounts needed at each stage of nutritional growth.

- 15 I U vitamin A per kilogram per day for normal histology
- 25 I U vitamin A per kilogram per day for normal visual threshold
- 80 I U vitamin A per kilogram per day for minimum liver storage
- 240 I U vitamin A per kilogram per day for maximum growth rate
- 400 I U vitamin A per kilogram per day for maximum reproducibility

Thus the requirement depends upon what is accepted as adequate.

In determining nutritional status, these facts are basic:

- When dietary intake is limited, the reserve in tissues goes down.
- When sufficient pathological lesions develop, the animal may die, or survive with lowered health.

These three methods of determining deficiency in nutritional status are used:

1. Dietary histories: They take a long time and are subject to many errors.
2. Pathology or the presence of disease: This is only useful when there is outright disease. Now many milder symptoms are known, such as skin and eye changes. However, mild symptoms are a less accurate indication.
3. Chemical tests can be made to determine the levels of materials in the blood or metabolic end products present in tissues: The chemical approach is more objective. It can be used for almost any nutritional status. It has been possible to relate the chemical results to results of dietary studies, and pathological symptoms of

chemical tests are that these tests require only a small amount of blood, which can be obtained with speed and limited equipment. Cost is lower but not cheap. Chemical tests are objective when interpreted correctly.

Disadvantages: The data are not complete for interpretation of results.

The dietary and pathological methods seem to have gone as far as they can, while the chemical methods are only beginning. Much more can be worked out, but standards for interpretation are needed. In all such work, plans must be made for use before setting up the project, or data will have no value.

How to Interest Adults in Studying Nutrition Dr. Ercel Eppright

People must feel that nutrition has something for them, to be interested in studying it. There is ample proof of importance of nutrition to adults. The Harvard University Studies on mother-child nutrition, show that careful food choices helped both mother and child. With good nutrition, the process of bearing a child permitted the maximum maturation of a person, both physically and mentally. Adults can always be reached through the need for feeding their children properly.

Today babies are probably the best fed group in the United States. However, there is need to educate:

1. For breast feeding
2. For better feeding of school-aged children. They are too often tired, the hair is dull, etc. There is a relaxation on nutrition. The child lacks Vitamin D, and dislikes have developed.

Nutrition affects the well-being of people of all ages. The following are some of the ways in which the contribution of good nutrition is being studied.

1. Its importance in extending the prime of life.
2. Better learning abilities of both children and adults.
3. Beauty that comes from a glow of good health.
4. A happy, cooperative, alert person, who enjoys people.
5. Absence of symptoms of disease.

As a method of teaching, the discussion-decision is recommended, as the percent acting upon this type over lecture method is much greater. The value of simple demonstrations was emphasized.

These notes are only in addition to Dr. Eppright's excellent outline.

What Are We Teaching?

(A Survey of Central States' Projects, Present and Past)

Mabel Doremus, Extension Nutritionist, Nebraska

Miss Doremus showed charts giving a picture of the families assisted in various phases of food preparation, preservation, and meal planning. These charts showed that the number of families assisted had dropped since the war years. They also showed that home agents in the Central States reached more families per agent than in the United States as a whole.

A discussion brought out the following reasons for the decline in families reached and food activities since the war:

1. War influence (shortage, etc.)
2. Overemphasis on foods in the war years. Suggestion was made that the study should have started with prewar years to show fair comparison.
3. Much more information is given through press and radio (no check on this).
4. Shift of emphasis in subject matter.
5. Entrance of new programs with Extension dropping into an advisory position, as with school lunches, possibly consumer education program in some States.
6. Difficulty in reporting.
7. The drop in line of graph does not mean a drop in effectiveness of the over-all extension nutrition areas to be emphasized - child feeding, school lunch, nutrition for all ages.

A questionnaire sent out to the nutritionists in the Central States showed that the interest in subjects was similar although they had different names. There is a great trend toward freezing.

A Farm Woman Looks at the Nutrition Project

Myra Robinson, Immediate Past President, Illinois Home Bureau Federation

Miss Robinson told us that we made our nutrition work undramatic. The food dollar is now competing with other products which are more dramatic, such as cars and television sets. Farmers should be interested in good food not only for themselves but for sale. The nutritional program may be too technical. We should stick to the Basic Seven and it should be presented in simple form. Nutritional deficiencies are harder to compare than faults in clothing or home furnishings. With farm income going down, emphasis needs to be put on a complete food supply for the farm, because we can have a more complete diet from our own farms. We do not reach people who need it most in the community. We need more emphasis on pasteurizing milk. Food preparation and nutrition are not separate. There is an increasing number of young mothers in extension groups and they should have help in solving problems.

Discussion: Where Are We Heading?

Georgiana H. Smurthwaite, State Leader, Kansas, Leader

From a questionnaire sent to nutritionists in the Central States, it was shown that the following subjects or trends should be emphasized:

- Basic nutrition
- Surplus (abundant) foods
- Consumer education
- Nutrition for the aged groups
- Electric (and gas) cookery
- Freezing foods
- Use of ready-prepared foods

The Basic Seven still need to be stressed and given a more popular appeal. We need to go ahead with producing the home food supply. In dealing with abundant foods the radio, press, and television are means for getting information out quickly. Information on electric (and gas) cookery needs to be coordinated with home management. Consumer education on food equipment, with emphasis on quality is needed. The nutrition program needs to be planned to include all members of the family, including the men.

Our Responsibility in the Marketing Program

Director H. J. Reed, Indiana; Conie C. Foote, Home Economist,
Kansas City Project

Dean Reed quoted from the Agricultural Marketing Act to show that the bill provides for consumer education in the field of foods and nutrition to promote the health and welfare of the people. This work is to include marketing research and studies on distribution and on improving the diet and nutritional standards. He also suggested that subsidy payments should be made on high nutritive foods. Dean Reed said educational work should give people a sense of value as to resources in money and time, as well as food, so that they will use these resources more effectively.

Miss Foote: The main purpose of the consumer education program of the Agricultural Marketing Act is to have people well fed. It does not have getting rid of surpluses as its main objective. It is to promote the use of food important to health and welfare. People do not eat the proper foods because:

1. They do not have the foods.
2. They do not have the information on how to use them.
3. They do not have a knowledge of what could be gained by eating proper foods.

The housewife goes to the grocery store with three budgets -- (1) nutrition, (2) money, and (3) time. To these are added the food likes and dislikes of the members of the family. Miss Foote then referred to the chart (reproduced here) to give an idea of how her program is set up and the needs met. The program uses mass education media. A weekly menu planning guide, including good buys,

Nutrition Program, Extension Service, Kansas City, Mo.

<u>Who?</u>	<u>What?</u>	<u>Why?</u>
Rural families (Food producers)	Food Production (home) Food preservation and storage (home) Food preparation An appreciation of good food and adequate diets as means of promoting health Basic information required to select food on the basis of nutritional needs and family resources	To assure good food, good diets, optimum nutrition,
Urban families (Nonproducers)	Meal planning and food service Food buying An understanding of markets Knowledge of legislative regulations affecting market organization, function, and cost	and health for each consumer.

buying tips, menus for a day, recipes, and some time-management information is distributed. Related agencies request nutrition help. In the Kansas City area there are:

- 12 institutions where children are fed
- 7 day nurseries and schools where children from low income are fed
- 9 institutions for aged
- 5 shelters for transients
- 14 child health centers
- 15 health centers for adults
- 16 agencies giving family assistance and service
- 21 agencies and groups providing health education service
- 19 community centers and neighborhood programs

A city community organization of professionally trained home economists is doing volunteer work in an effort to get more nutrition information to more people.

One regular radio program is given and all stations are supplied with materials. One daily newspaper and 23 neighborhood newspapers use material. Tradespeople have given excellent cooperation.

The Measuring Device or Report Forms Used in Evaluating
Some Phase of Nutrition
Dr. Gladys Gallup

The first step in evaluation is the clarification of what we are teaching - stating and defining the objectives.

The second step in evaluation is the question or questions we are going to ask. This involves working out some kind of report form or questionnaire. We have two problems: first, what questions to ask and second, how to word the questions.

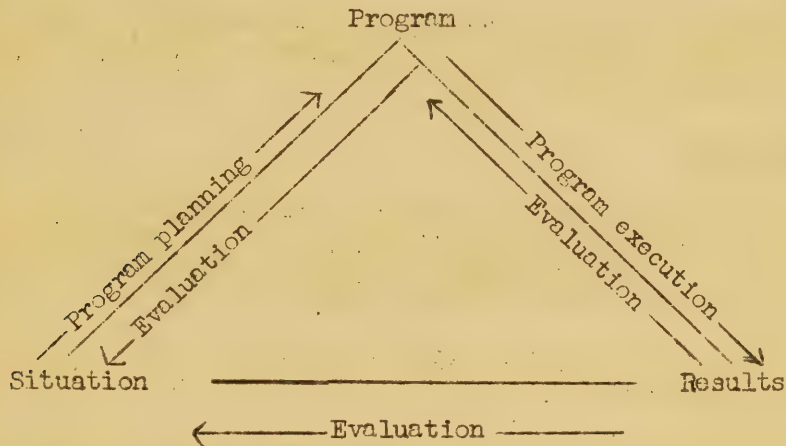
The questions should be discriminating, questions that help to indicate whether the homemaker or family has benefited by some fundamental nutrition teaching. By getting such basic information from year to year, the specialist and agent and the homemakers themselves can show progress in some one area of teaching that is significant. Too often, different questions are used each year to get answers to short-time and superficial phases of a subject-matter field.

Care should be taken to work questions in such a way as to make them clear to lay people. The use of pre-testing questions with a few representative homemakers helps to clear up misconceptions due to the use of technical and ambiguous terms. See questions worked out by Miss Collings in mimeographed circular No. 1094, Can We Improve Our Methods of Collecting Evidence of Progress in Home Demonstration Work?

In addition to the questions we ask the homemakers, we need to get additional data from them about their families that will help to interpret the food practice questions.

This information is called face data and if studied in relation to the food questions, the face data give the specialist and agent a better understanding of the answers to the questions.

Evaluation is a continuing, constant procedure. Much of it is informal and a part of the thinking of a worker. Only a small proportion of evaluation is in the form of a study.



Evaluation of the use of the broiler

Lulu Black, in charge of extension studies and training in Illinois, discussed briefly the program of studies in Illinois. Two illustrations from the field of nutrition were discussed. Frances E. Cook, extension specialist in foods, discussed an evaluation of the use of the broiler in Montgomery County, Ill. The teaching objective was to show the women how to use the broiler and how to cook a variety of foods in the broiler at one time.

The purpose of the study was to get information on the frequency of use of the broiler before the lesson was given to unit members and three months after the lesson was given.

1. To find what variety of foods was cooked in the broiler before and after the lesson.
2. To ascertain some of the problems experienced by homemakers in using the broiler.
3. To evaluate the effectiveness of the lesson given by local leaders in the units.

One change after the lesson on broiler and oven meals was that a much higher percentage of the women were using their broilers weekly.

Since the unit meetings, about 50 percent of the women have cooked several foods in the broiler at the same time. Before the training school, only 4 percent used this method. Interest in broiling a larger variety of foods has also increased, but meat and sandwiches are still the most commonly broiled products.

Miss Cook discussed some recommendations from the study. This study may be obtained by writing to Frances E. Cook, Extension Specialist in Foods, University of Illinois, Urbana, Ill.

Meal-Planning Study

Lulu Black and Grace Armstrong discussed a meal-planning study. This study included a check sheet for women to fill out. The check sheet included what was done by the women before the meal-planning lesson and what was done by the women as a result of the meal-planning lesson.

A check was made of the order in which the members of the family should be considered when planning meals.

The family situation basic to meal planning was checked. Miss Black and Miss Armstrong indicated the type of mistakes that should be avoided in conducting this kind of evaluation. They strongly stressed that the home adviser in the counties where evaluations are being done should participate in the study from the beginning and that they need to see the sense in doing this kind of measurement.

Questions used in Indiana at End of Leader's Guide

Lois Oberhelman, nutrition specialist in Indiana, explained the leader's guides used in that State. She discussed:

- a. Subject matter.
- b. Outline what leader is to do and demonstrate.
- c. Evaluation of the project at the end of the year and evaluation in terms of adopted practices at the end of each lesson.

Food and the People

M. L. Wilson, Director of Extension Work

It was at the Hot Springs conference that the "marriage of agriculture and nutrition" occurred. Sir John Boyd Orr was made the first head of the Food and Agriculture Organization. It was the hope that agricultural production might be so adjusted that the world would receive an optimum diet. Efforts continue toward international cooperation in sharing natural resources, science, and culture in the hope that there will never be another war. Food plays a great part in the health of the people of the world. International cooperation is difficult, and we are only children in such a development. Education is greatly needed in such an effort so UNESCO and FAO are cooperating in this international movement. The United States has a great responsibility in developing better health and education in the world.

- Problems nutrition specialists may attack: 1. Work with State or local committees to further international action and world opinion toward the production of enough food for all. (One third of the people get two thirds of the world's food) (One half of the people of the world are hungry all the time).
2. Keep up with science and rapidly changing food habits and patterns of society. Make use of new developments in teaching.
 3. Emphasize the fact that if all had "top nutrition" there would be no surpluses. "Bucyant health" (Dr. Sherman) is in the grasp of our civilization. There is a need for raising standards of living of the world.

Food Consumption Patterns

Faith Clark, Food Economist, Bureau of Human Nutrition
and Home Economics

Present food consumption in this country is at a high level as compared with most other countries of the world. Per capita consumption in the United States in 1949 was 250 quarts of milk or the equivalent of milk products, 364 eggs, 160 pounds of meat, poultry, and fish, 103 pounds of sugar and sirup. There was an average intake of 3,200 calories per day.

Slides were shown to indicate the trends in pattern of family food consumption from 1909 to 1949. One of the items of interest was that protective foods had risen from 27-28 percent of total caloric intake to approximately 35 percent. The effect of the enrichment program showed a favorable trend in the chart where nutrients of the diet were compared.

Miss Clark reported on the recent studies of food consumption of city families. One of the major factors that determine how much people spend for food is the family income. It was well illustrated on slides how food groups such as green and yellow vegetables vary with the income, and as the use of such a group increases the potato and sweet group declines.

The number in a family unit determines the amount of money spent for food per person. In 1948 \$7 per person per week was spent by the larger families and \$9.20 by the smaller families. The foods larger families appeared to economize on were meat and fresh vegetables.

A country so large as ours has many local and regional variations in food consumption due to availability of food, prices, and local customs. By and large the greatest difference occurs between the North and South. To some extent it is caused by income differences, but food likes and preferences are factors.. Slides were shown to illustrate regional differences of food consumption in four cities in different sections of the United States.

Few surveys on rural food consumption are available. There is some speculation that farm families are producing less of their own food now than they did in the thirties. From the national estimates little change is indicated in home produc-

tion of meat, milk, eggs, and poultry in the past 10 to 15 years. There has been a downward trend in farm-made butter, especially in the North Central region. Farm diets are thought to vary with the season more than city diets, but there are few data to support the assumption.

Nutritive Value of Family Diets. In the national urban cross-section survey made in the spring of 1948, 3 or 4 out of every 10 families had diets that did not meet the National Research Council's recommendation for calcium. About 2 in 10 were low in ascorbic acid and the 3B vitamins when deductions were made for average cooking losses. A larger percentage of low-income families failed to meet the standard than of the higher-income groups.

Discussion: Implications of Consumption Patterns for
Program Planning

Mildred Nelson Smith, Iowa, Leader

Stimulate interest in program planning by --

1. Survey and research gleanings.
2. Local situation statements.

Actual data (county) show the local situation and if these are properly used, so that the women see the need, there is hope for women to desire a change. Remote situations often do not motivate a desire for a change. Women understanding a need often request assistance in attacking their problem, and this leads to good program planning.

Incorporating Nutrition in the 4-H Program

Panel: Josephine Flory, Missouri; Minnie Price, Ohio;
Mary Fletcher, Kansas; Frances Minick, Indiana

Goals we should hope for:

1. Health tied up with good looks
2. Good food preparation
3. Wise food selection
4. Learn to like to handle food
5. Encourage parent understanding
6. Learn to work in a group

A. Project Work Methods.

Leader training in Kansas

1. All 4-H leaders invited to women's meetings of judging sections for leaders.
2. Leader-training meeting (judging, demonstration, etc.)
3. Literature

Food preparation (10-year-old - simple beverages and desserts, serving lunch, dinner)

B. Activities. Since all girls are not enrolled in nutrition and few boys are enrolled, use Extension camps and conservation camps, and other places where all 4-H boys and girls can be reached to teach nutrition.

Food for healthful living - basic nutrition - Miss Price, Ohio

Demonstrations - Miss Price, noncompetitive demonstration in booths in State Fair.

Have 4-H revue - not just clothes but also loaves of bread, canned food, and products of other 4-H food activities.

Have 4-H demonstrations at Farm Home Week.

Have 4-H Club members sell food at fair.

Have dental check-up at camp. A State reported 78 percent of 4-H members had recommended work done.

Relating the Extension Program in Nutrition to Other State
and National Programs in Nutrition

Eunice Heywood, U.S.D.A., Leader; Blanche Lee,
Wisconsin; Lois Oberhelman, Indiana; Jessie Heathman,
Illinois; Mary Rokahr, U.S.D.A.

Wisconsin Program Planning - Blanche Lee.

Agriculture and home economics. Many projects in agriculture where men need women's help, such as quality milk, garden programs, etc.

4-H Club work. Family approach. Portions of agriculture need help of women's group. Nutrition needs help of men and boys. State office committee has representatives of agriculture, home economics, 4-H Clubs.

Special committee is organized on gardens - made up of nutrition and garden specialists.

Indiana Safe Milk Project - Lois Oberhelman.

Diets of 4,000 school children in Floyd and Harrison counties checked by Indiana Public Health. Very low in fruits, vegetables, and milk. Elementary teachers given training in nutrition. Later children's diets rechecked. Some improvement in diet scores, but they were still low in some foods. At the same time county extension agents in Harrison County began working with farm families on the Brucellosis problem. One county-wide leader-training school was held which trained 27 leaders who reached 350 rural families. They had the Dairy Caravan 2 years. The farm people in cooperation with the veterinarians' association and county Extension Service tested all the cattle in the county. The diseased cattle were sold and a police committee of farmers in each township was appointed to keep diseased cattle from coming back into the county. At this point all three agencies united to work toward one common objective.

1. Safe milk in every home.
2. Milk programs in every school in the county.
3. A county civilian committee was appointed to work with State Board of health, state veterinarians' association, Extension Service, parent-teacher association.
4. A nutritionist was appointed to teach nutrition to all groups in the two counties of Floyd and Harrison.

Illinois Information Methods - Jessie Heathman

State nutrition committee composed of:

Illinois Welfare	Vocational Education
Farmers Home Administration	Parent Teachers Association
Public Health	Federation of Labor
Restaurant Association	Public Health Nursing
Tuberculosis Association	Public Aid Commission
Superintendent, school lunch	Medical Association
Dietetics Association	Maternal Child-Health
Dental Association	Home Economics Association
Home advisers	Teachers' colleges
Illinois Red Cross	University of Illinois Home Economics

The committee also receives information from these agencies. Health unit in nutrition for elementary teachers.

1944 suggested guide for teaching nutrition and in 1945 a supplement was added.

Illinois health and physical education low - can be nutrition. Nutrition Committee has workshops each year financed by Extension. A report on workshop went to State Nutrition Committee.

Workshop - State Welfare people. - Institutional Management, Foods Budget Welfare.

Illinois University - Radio broadcasts. Educational program each morning on any subject. Evening broadcasts by home economics people. Topics discussed were: food consumption studies, research projects, food preservation, local projects, such as "apples". Program went to smaller stations.

Time of meeting of State Nutrition Council

Executive Committee. Large committee meeting twice a year. Registration fee \$1. News letter to each member printed by Illinois Extension Service.

National Programs of Concern to Nutritionists, - Mary Rokahr

Three important national activities of concern to nutritionists are:

1. Midcentury Conference on Children and Youth to be held in Washington, D.C., December 1950. It is sponsored by the Children's Bureau, Federal Security Agency, and is similar to conferences held at 10-year intervals in the past, to aid in the physical and mental health and development of children and youth. The State governors have appointed a State Committee. If the Extension Service is not represented in it, we should offer our services to the governor. Program activities are already under way, covering the community, county, State, and Nation. The program is to continue throughout 1951. State Extension Service staff attending the December conference will confer immediately after this conference to discuss the findings and recommendations and decide how the Extension Service can help. The help of the nutrition specialists will be needed, especially in the community and State programs on health phases.

2. Possibilities of Legislation on such subjects as enrichment of flour and cereals, bread standards, taxes on food products, and grade labeling and standards.
3. Consumer education. Other consumer education besides that conducted through the Research and Marketing Act includes the National Consumer Retailer Council, organized 12 years ago to develop cooperation between professional home economists and retailers. Cooperative programs of home economics extension workers and teachers and retailers are an outgrowth of this work. Through meetings and other activities home economics teachers have an opportunity to explain to retailers the basis for their educational programs and what they are teaching consumers, and the retailers in turn explain to teachers the factors they have to consider and problems they encounter in conducting retail business. Such cooperative programs have been developed for food with independent grocers and food chains. Further information on the NCRC program may be obtained through NCRC, 1860 Broadway, New York, N.Y.

Our Responsibility for the School Lunch Program
Roberta Hershey, Michigan; Ina Morris, FMA

Growth of program like an amoeba - many agencies involved.

I. Survey showed 8 out of 9 States felt Extension should help.

Statements: Illinois - Purpose of help was education.

Wisconsin - Most needed in smaller rural schools without home economists.

Illinois - Supervisors not trained home economists.

Kansas - Need well-trained supervisors.

South Dakota - Need improved attitudes toward dried eggs, milk.

Kansas - Has workshops for school lunches, 3-day district schools, work in school, work in school kitchens. Extension staff, State board of health, resident teachers, FMA.

Ohio - Little supervision.

Miss Morris - FMA.

Head - Program management varies with the States.

Indiana - Stage of program will determine participation. Try to transfer program responsibility to local people.

South Dakota - School board should support program.

Illinois - Board of education should be present.

II. Should consultant service be on State or county level?

Michigan - Should we fill the gap in committee service?

Minnesota - Can't abandon program, but Extension does not have sole authority or responsibility.

North Dakota - Helped get started, active to start with, then transferred responsibility, but maintain interest and help when called on.

Minnesota - Need to participate to keep informed. Some counties do not need National school lunch program.

Miss Morris - Checks have been set up. Evaluation worked out in Washington for lunch program. Should home agents evaluate? Committee be appointed to evaluate.

III. Discussion:

1. Talk with State education department about set-up and see where Extension can best help (problems are so varied and so big).
2. Build up support of the public for the program. Make them aware of situation. Work on local representatives.
3. Use local resources as much as possible for educational part of program.

